

Early intervention saved the life of mother and baby: Management of a parturient with snake bite with neurotoxicity

Sir,

Snake-bites are rarely seen during pregnancy as pregnant patients are mostly home bound and also because of less reporting of such patients.^[1] Envenomation by kraits and cobras usually presents with neurotoxic manifestations with characteristic descending paralysis. The target site is the pre-synaptic motor nerve terminal in krait and post-synaptic nicotinic receptors in cobra bites. The earliest muscles involved are those supplied by cranial nerves, resulting in manifestations like ptosis, diplopia, loss of facial muscle expression followed by dyspnoea, dysphagia and respiratory paralysis.^[2] High maternal mortality in such cases occur due to delay in seeking or reaching treatment, till the obvious manifestations of neurotoxicity are developed or due to delayed administration of anti-snake venom (ASV) especially in developing countries.^[3,4]

Snake venom has been shown to have toxic effects on placenta leading to impaired placental function and endangering the life of the foetus.^[5] ASV can also lead to negative consequences on both maternal and fetal outcomes as it may cause anaphylactic reactions. We, hereby report a case of a neurotoxic snake-bite in a pregnant patient with positive outcome as a result of early intervention.

A 31-year-old multigravida (G₃P₁) at 37 weeks of gestation got bitten by a snake on her forearm. Nearly 12 hours after the bite, she developed heaviness of eyes, weakness of body followed by shortness of breath, but could reach the hospital only after an interval of 19 hours. She was admitted in Severe Acute Respiratory Infection (SARI) ward as per the protocol being followed during COVID-19 pandemic.

The patient was conscious, co-operative and well oriented with vitals as: heart rate (HR)-86/min, oxygen saturation (SPO₂)-97%, respiratory rate (RR); 22-28/min, neck holding time >10 sec, but ptosis was present. There was slight inflammation at the site of bite mark in right forearm. The whole blood clotting test (WBCT)

was <20 minutes. Other routine blood investigations were within normal limits. ASV (100 ml) infusion was started immediately after giving subcutaneous Inj. adrenaline 0.25 mg as a prophylaxis for anaphylaxis. The patient did not show any improvement and her clinical condition was deteriorating hence the second dose was repeated after 4 hours.

The gynaecological assessment of the patient was done and foetal heart rate (FHR) monitoring was advised. Nearly 24 hours after the bite, the patient started deteriorating as she developed tachycardia (HR; 130-150/min), tachypnoea (RR; 30-40/min), altered sensorium, increasing ptosis and impaired neck holding. Her SPO₂ was 94% with O₂ inhalation, and FHR varied from 130-150 beats/min. Due to impending respiratory failure, anaesthesia team was consulted for probable intubation. Decision was taken for intubation of the patient followed by emergency caesarean section to save the foetus. Patient was induced for anaesthesia with intravenous (I.V.) propofol (100 mg) and I.V. succinylcholine (100 mg). The maintenance was done with O₂:N₂O: isoflurane in the ratio of 33%:66%:0.4-0.8%, and Inj. atracurium (20 mg). Analgesia was maintained with Inj. fentanyl 100 ug and Inj. paracetamol 1000 mg. The baby was extracted but required resuscitation and cried after 5 minutes of birth. Inj. neostigmine 2.5 mg + glycopyrrolate 0.4 mg I.V. was given after the completion of surgery. Patient was sent to intensive care unit (ICU) where she was kept intubated for nearly 24 hours, till she showed signs of improvement (resolving ptosis, improved neck holding time >10 sec), she was weaned off from the ventilator followed by extubation.

Anticipation and preparation for such unforeseen situations in clinical practice is severally advocated.^[6] Early decision making and interventions in such cases are of paramount importance to save the lives of both mother and foetus. Any delay can turn out to be detrimental and lead to worse outcomes.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the legal guardian has given his consent for images and other clinical information to be reported in the journal. The guardian understands that names and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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REFERENCES

- David A, Padmaja. Snake bite in pregnancy-case report and review of literature. *Int J Pregnancy Child Birth* 2017;2:21-3.
- Dayal M, Prakash S, Verma PK, Pawar M. Neurotoxin envenomation mimicking brain death in a child: A case report and review of literature. *Indian J Anaesth* 2014;58:458-60.
- Bawaskar HS, Bawaskar PH, Punde DP, Inamdar MK, Dongare RB, Bhoite RR. Profile of snakebite envenoming in rural Maharashtra, India. *J Assoc Physicians India* 2008;56:88-95.
- Magar JS, Rustagi PS, Malde AD. Retrospective analysis of patients with severe maternal morbidity receiving anaesthesia services using 'WHO near miss approach' and the applicability of maternal severity score as a predictor of maternal outcome. *Indian J Anaesth* 2020;64:585-93.
- Nawar NN, Mohamed AH, Adieb N, Emad M. The effect of maternal Naja nigricollis envenomation on the placenta. An experimental study. *Biol Struct Morphog* 1989;2:13-7.
- Bajwa SJ, Mehdiratta L. Preparedness for emergencies and complications: Proactive planning and multidisciplinary approaches. *Indian J Anaesth* 2020;64:366-8.

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